

A periodic report from

THE NATIONAL DIGITAL LIBRARY PROGRAM

### The Library of Congress

Major U.S. communications firm gives \$2 million

# Ameritech and Library combine resources to bring more libraries into the digital fold

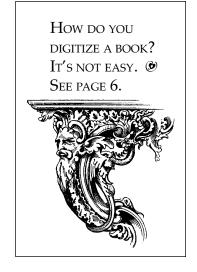
meritech Corp. and its Ameritech Library Services subsidiary announced on April 18 a partnership with the Library of Congress to establish a grant program through which selected libraries across the United States can digitize their unique American historical collections for incorporation into the Library's National Digital Library (NDL) Program.

The Ameritech Foundation is making a \$2 million gift to establish the Library of Congress / Ameritech National Digital Library Competition. It will enable libraries across the United States to make unique collections available on-line via the Library of Congress to millions of children, students and others.

The goal of the Library of Congress's digital program is to make freely available over the Internet approximately 5 million historical items by the year 2000, in collaboration with other institutions. Ameritech's contribution will help the Library meet that goal by being the first to provide funds to libraries and other institutions to aid them in the critical, yet expensive, task of digitizing and making available on the World Wide Web their collections.

"This grant program will vastly multiply the educational impact of bringing together important historical documents on specific subjects formerly dispersed among institutions across the country," said Dr. Billington. "We are grateful to Ameritech for helping to make a reality the truly national nature of our digital library effort."

Richard C. Notebaert, Ameritech chairman and chief executive officer, said, "The dream of linking all people to information and creating libraries with no limits is now a giant leap closer to reality. This is the most significant and far-



reaching charitable campaign Ameritech has ever undertaken. Our efforts literally will bring thousands of American treasures from across the United States into libraries, homes and schools everywhere for millions to enjoy and cherish."

Their remarks were delivered during an evening reception on April 18. Speaker of the House Newt Gingrich (R-Ga.) also attended. "The National Digital Library Program is one that will play a major role in enlarging and enriching the human race," he said. "The National Digital Library is the library of the American people."

"The Library of Congress/Ameritech National Digital Library Competition is a milestone in the drive to make our nation's treasures accessible to all Americans," he added. "This joint Library of Congress/Ameritech effort is making American history come alive and literally places it at the fingertips of children, students and adults everywhere."

continued on page 2; see Ameritech

🗖 he first time I accessed the Library of Congress homepage my excitement started to build. I had illustrations I could enlarge with the click of the mouse. To me, the most amazing photographs were the ones of the slaves during the Civil War. ... When I looked at the picture of African American contrabands at leisure outside their quarters in Culpeper, Va., chills ran down my spine, for they could have been relatives of mine.

> —Gwen Harrison Hammond Middle School educator Alexandria, Va.

#### Ameritech, from page 1

The Speaker also thanked Richard Notebaert of Ameritech, saying, "Dick, I really appreciate what you are doing." Rep. Ron Packard (R-Calif.) was acknowledged by the Speaker for his role in Congress's pledge of \$15 million for the NDL Program in fiscal years 1996–2000.

Dr. Billington recognized the Speaker as "one of the staunchest supporters of this initiative." He said, "This gift directly responds to [the Speaker's] call for a public-private funding of the National Digital Library effort."

Rep. William M. Thomas (R-Calif.), an NDL Program supporter and a former history professor, introduced another educator attending the reception, Gwen Harrison of the Hammond Middle School in Alexandria, Va. "Dr. Billington has done a superb job of getting the necessary private support that has kept the National Digital Library going," said

Rep. Thomas, who is vice chairman of the Joint Committee on the Library.

Ms. Harrison and her students are frequent users of the Library's digitized historical collections. An attendee who was especially interested in what Ms. Harrison said was Rep. James P. Moran (D-Va.), in whose district Hammond Middle School is located.

"When computers were first introduced in Alexandria, I was very fearful of using them in a room with my colleagues," Ms. Harrison said. "However, I did learn to use the computer, and along came the Information Superhighway. This was definitely not on my agenda. According to my plans, I would be retired before the Highway came near me."

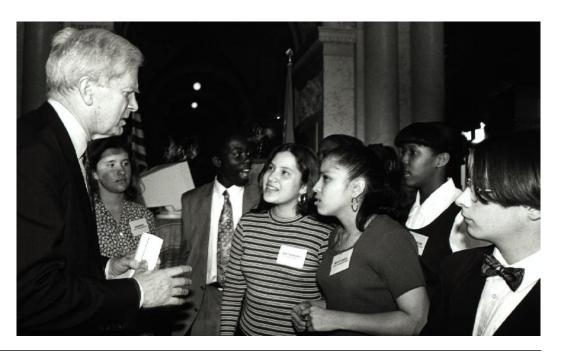
Ms. Harrison then recalled her experience using the Library's on-line collections. "The first time I accessed the Library of Congress homepage my excitement started to build. I had illustrations I could enlarge with the click of the mouse.

"To me, the most amazing photographs were the ones of the slaves during the Civil War

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Gwen Harrison's
Hammond
Middle School
students trade
Internet ideas
with the Librarian of Congress,
Dr. James H.
Billington.

Library of Congress photo by Jim Higgins



#### Ameritech, from page 2

[from the Mathew Brady Collection]. My grand-parents had recounted our oral history when I was young. ... When I looked at the picture of African American contrabands at leisure outside their quarters in Culpeper, Va., chills ran down my spine, for they could have been relatives of mine."

Also present was Reed Hundt, chairman of the Federal Communications Commission. He thanked Rep. Gingrich for his role in passage of the Telecommunications Act, which was signed by President Clinton in the Main Reading Room of the Library on Feb. 8 (see Issue No. 6).

The bill "will help make it possible for every child in this country to have telecommunications access. No other country has done this," he said.

Thirteen of the Library of Congress's unique American history collections are now available from its homepage at <a href="http://www.loc.gov/">http://www.loc.gov/</a>. In March, five collections were added, including documents of the Continental Congress, African American pamphlets relating to slavery and civil rights, and daguerreotypes of Abraham Lincoln and Zachary Taylor, including the earliest known photographic images of the U.S. Capitol and White House. These newly digitized collections join early motion pictures, sound recordings of American political leaders and selected notebooks from Walt Whitman and other treasures that are already available.

The National Digital Library Program at the Library of Congress is funded mostly by private donations, with support from the U.S. Congress. This public-private partnership is enabling the Library to share its rare American treasures nationwide. So far, the Library has raised more than \$21 million in private funds, and Congress has pledged \$15 million for fiscal years 1996–2000.

The \$2 million grant is the largest single contribution ever made by the Ameritech Founda-

tion. Complete details of the Library of Congress/Ameritech National Digital Library Competition and how libraries and other institutions can apply for the grants will be announced soon. Grants will be awarded based on recommendations to the Library and Ameritech by a panel chaired by Deanna Marcum, president of the Commission on Preservation and Access and the Council on Library Resources.

Ameritech, one of the world's largest communications companies, helps more than 13 million customers keep in touch. The company provides a wide array of local phone, data and video services in Illinois, Indiana, Michigan, Ohio and Wisconsin. Ameritech (http:/ /www.ameritech.com) is creating dozens of new information, entertainment and interactive services for homes, businesses and governments around the world. One of the world's leading cellular companies, Ameritech serves almost 1.9 million cellular and 750,000 paging customers and has cellular interests in telephone companies in China, Norway and Poland. Ameritech owns interests in telephone companies in New Zealand and Hungary and in business directories in Germany and other countries. Nearly 1 million investors hold Ameritech shares.

Ameritech Library Services develops and distributes library management systems and information access products worldwide. With headquarters in Provo, Utah, an affiliate office in Evanston, Ill., and offices in 18 countries, the company serves 3,500 client libraries in 34 countries and is the world's leading provider of library automation software.

-Guy Lamolinara Public Affairs Office



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—Richard C. Notebaert, Chairman and CEO Ameritech

Photo by Jim Higgins

The challenge of digitizing artifacts

## Many heads, careful hands, and the best equipment are needed for a delicate task

Two of the many people who will be involved in the digital coversion of a single item—in this case a rare book published in 1898. Steve McCollum, a digital conversion specialist, and LeeEllen Friedland discuss the scanning of Wild Animals I Have Known, by Ernest Seton Thompson.



Library of Congress photo by Yusef El-Amin

or each Library of Congress collection that is digitized and uploaded to the World Wide Web, National Digital Library (NDL) Program staff must choreograph and carry out a complex "dance" involving numerous partners throughout the Library, said LeeEllen Friedland, senior digital conversion specialist for the NDL Program.

"We dance delicately with a lot of partners here. We're happy to do it, but it makes our work a little more complex than one might imagine," Ms. Friedland said.

From the very first step—selecting which collections to put on-line—digitization is a joint venture. Custodial divisions submit nominations to NDL staffers, who evaluate the relevant subject, technical and conservation issues against their own criteria.

The Conservation Division plays a critical role in digital decision-making, since the Library of Congress's mission—unlike that of some libraries—includes preserving the artifacts in its collections. Digitization can expose artifacts to heavy handling; in some instances, scanning can be particularly damaging since it may involve repeatedly inverting items onto a scanning bed, said Mary Wootton, a rare-book conservator. The Library is in the forefront of efforts to find or develop scanning methods that minimize damage to rare materials. (See Issue No. 5 for a story about digitizing rare maps.)

But, paradoxically, putting a collection online "can be a tremendous life-saver for rare items, since researchers then have much less

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need to handle them directly," noted Ms. Wootton.

Conservation staff physically assess each collection to weigh the benefits of Internet accessibility against the extra wear and tear it will undergo to get there. Conservation and the custodial division discuss whether digitization is viable, but in most cases Conservation staff have final say.

Legal restrictions on the materials—copyright status, terms of gift or issues related to publicity and privacy—are also critical in deciding whether to digitize. NDL works with the Copyright Office and General Counsel to consider whether and how to resolve these issues.

Once a collection is chosen, NDL works with other offices to create a customized plan for digitization.

Early on, NDL works with Information Technology Services to determine where on the Library's computers the new files will be stored.

NDL also works closely with the collection's curatorial division. Curatorial staff help prepare materials for scanning, make available any access aids that exist and help NDL design new aids tailored to the electronic environment.

A few divisions use other models of relating to NDL. Over the years some have developed their own in-division digital expertise and may conduct their digitization efforts more autonomously from NDL.

The Prints and Photographs Division (P&P), for example, has long experimented with electronic technologies to make its treasures more accessible to the public. P&P has had about five staff members working full-time since the mid-1980s to prepare almost 500,000 images—first for the Optical Disk Pilot Program, then for

See focus box on the next page for some of the specific details of the digitization process.

American Memory and now for NDL. Large collections of fragile negatives, such as the Detroit Publishing Co. collection of 25,000 glass negatives and transparencies, need electronic reference copies just to make public viewing feasible.

The World Wide Web projects spearheaded by NDL have been a natural progression for P&P, said Helena Zinkham, head of processing.

"We're pleased to have our collections on the Internet," Ms. Zinkham said. "Although we have our own digitization program, NDL provides the infrastructure to make our collections available outside our reading room. Currently they are helping us put our finding aids on-line, and we are working on some collections we wouldn't have otherwise. It's been a fruitful give-and-take."

P&P "has been our most active partner," confirmed Ms. Friedland. "Our relationship with them is an excellent example of how cooperation can not only help NDL further its mission, but also be good for the custodial division."

Close partnerships continue throughout the digitizing process, including the design of a customized homepage for each collection.

"The curators help us develop the framework materials, but we then take the lead in preparing them for the homepage," explained Ms. Friedland.

At last, "We assemble all the pieces, test and refine everything and then—we release the collection to the public," said Ms. Friedland.

NDL's work still doesn't end when a collection is on-line. Maintenance and updating in the on-line environment will continue indefinitely, as long as the Internet serves up cultural treasures to users worldwide.

-Kristin Knauth Kristin Knauth is a free-lance writer working in the Public Affairs Office. Putting a collection on-line will actually extend its life, "since researchers then have much less need to handle [the items] directly," says Mary Wootton, a Library of Congress rarebook conservator.

The Library's book treasures will be read in near-perfect facsimile, around the globe and around the clock.

# Preservation and digitization—balancing the two responsibilities

Tronically, a book—one of the most ancient forms of information transmission, dating back as far as the ninth century B.C.—is among the most difficult

media to transpose to the cutting-edge technology of the World Wide Web, say staff members at the National Digital Library (NDL) Program.

"Digitizing movies and audio are really unspectacular compared to digitizing a book," said Carl Fleischhauer, coordinator, NDL.

The challenge is two-pronged. Because the Library of Congress, unlike many libraries, is charged with preserving its artifacts, NDL cannot dismantle a book for digitizing and then discard it, as some libraries do, said LeeEllen Friedland, senior digital conversion specialist at NDL.

To further complicate matters, until very recently the equipment for digitally capturing bound materials "has been inadequate," she added.

"One might imagine that a book could simply be vacuumed up into the com-

puter and digital images would appear by magic," she commented. "That would be nice—but in reality we're forced to confront the lowest-level technological is-

sue: the book as a vulnerable physical artifact. Conservation and preservation, ironically, are really our main challenges here."

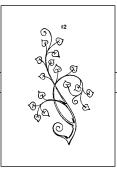
Fortunately, a new generation of "overhead capture de-



vices" is allowing libraries to safely scan delicate materials. Rather than flattening a book face-down on a glass surface, as many scanners require, overhead capture devices allow a book to be placed in a V-shaped cradle that doesn't stress the binding—a big plus for preservation.

Scanning is just the first step, however. Most books accessible from the Library's Web pages can be viewed in two formats: as graphic images and as machine-readable text files, which allow keyword searching and other blessings of the digi-

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tal realm. (The exception to this rule is handwritten manuscripts, which are presented as graphic images only.)

Scanned images provide World Wide Web users with the opportunity to view images of a book's actual pages on-line. "There's a tremendous advantage in being able to see the original page image," said Ms. Friedland. "Users know what they are seeing is entirely accurate. And the image provides scholars with important contextual information: handwritten annotations, typographical design and so forth." Also, access to these scanned images can help reduce the amount of handling inflicted on the original artifacts.

To produce the machine-readable copy, NDL turns over the scanned images to outside contractors, who re-key the text and encode it in SGML (Standard Generalized Markup Language).

NDL reviews the contractors' work for quality, performs or requests any needed cleanup, then sends both the images and SGML text files to the Library's Information Technology Services division, which places them on a computer server dedicated to housing NDL's digital collections and routing them to users.

Next, NDL's resourcefulness comes into play—by creating or coordinating access aids for the newly digitized collection.

If the collection's custodial division has already developed finding aids and bibliographic records, NDL makes use of them and links them to the digital book.

But digitization is an opportunity to create new access aids unique to the electronic environment, such as full-text indices that allow keyword searching, digital bibliographies, time lines or other aids not found on the shelf.

"The whole of every digitized collection is greater than the sum of its parts," explained Ms. Friedland. "Digitization provides an opportunity to reevaluate traditional access aids and think creatively about how to re-use or adapt them to a new environment."

Finally, NDL staff incorporate all of the digitized files into the "framing materials," the customized World Wide Web "homepages" developed for each collection.

After initial collaboration with curators, NDL staff design and produce the Library's homepages, adhering to general Library guidelines for style and format. NDL staff have to monitor fast-moving developments in Web design and function so that the Library's homepages can reflect current trends, Ms. Friedland said. Every digital collection also features an introduction and menu created specifically for its Web form.

"Then we test and refine everything—and release the collection," said Ms. Friedland.

Digitized, the Library's book treasures can be read in near-perfect facsimile, around the globe and around the clock, by anyone with Internet access.

-Kristin Knauth

Ironically, for the hightechnology digital library project, the Library "must confront the lowest-level technological issue: the book as a vulnerable physical artifact," in the words of LeeEllen Friedland. senior digital coversion specialist.

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THE CHALLENGE OF BRINGING ARTIFACTS TO DIGITAL FORMATS

AMERITECH GIFT OF \$2 MILLION WILL WIDEN ACCESS TO INTERNET

Sindy Benavides and Greg Bilyk of Hammond Middle School, Alexandria, Va., demonstrate their Superhighway skills at the reception celebrating the Ameritech gift. Second from left is **NDL Project Manager** Martha Dexter.

STORY BEGINS PAGE 1.



Library of Congress photo by Jim Higgins

THIS REPORT IS ON THE WEB\*

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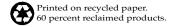
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